

# **FIREARM-RELATED FATALITIES**

## Arizona, 1988-1998



### **Public Health Services**

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Jane Dee Hull, *Governor*  
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*Arizona Department of Health Services*

OFFICE OF EPIDEMIOLOGY AND STATISTICS  
BUREAU OF PUBLIC HEALTH STATISTICS  
ARIZONA DEPARTMENT OF HEALTH SERVICES  
2700 North 3<sup>rd</sup> Street, Room 4075  
Phoenix, Arizona 85004  
Phone: 602/542-1216; FAX: 602/542-2940  
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# FIREARM-RELATED FATALITIES ARIZONA, 1988-1998

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BY

CHRISTOPHER K. MRELA, PH.D.,  
*ASSISTANT REGISTRAR OF VITAL STATISTICS*

IN COOPERATION WITH  
TRENTHAM COE, *SENIOR RESEARCH DATA ANALYST*

MAY 2000

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# FIREARM-RELATED FATALITIES, ARIZONA, 1988-1998

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## PURPOSE

The purpose of this report is to provide information on firearm-related deaths among Arizona residents. The data for 1998 are placed in a temporal context by comparison with the data for the preceding 10 years.

## METHODS AND SOURCES

In this report, firearm-related fatalities are defined according to the ICD-9\* as an underlying cause of death coded as:

E922.0 - E922.9 (*unintentional or accidental injury caused by firearms*),

E955.0 - E955.4 (*suicide by firearms*),

E960.0 - E965.4 (*homicide by firearms*),

E970 (*fatal injury due to legal intervention by firearms*) and

E985.0 - E985.4 (*firearm-related fatalities undetermined as to whether they were purposely or accidentally inflicted*).

Data on the number and characteristics of firearm-related fatalities among Arizona residents were obtained from death certificates filed with the Arizona Department of Health Services.

Population denominators for Arizona residents, used to calculate rates, are projections from the Population Statistics Unit in the Arizona Department of Economic Security (data for 1988 to 1989 and 1993 to 1998) and the U.S. Census Bureau (data for 1990 and data by ethnic group for 1998). Detailed population data by gender, age and county were unavailable for 1991 to 1992. In order to obtain the population denominators for these two years, the 1990 percentages of population breakdowns (or census shares) by age group and gender were applied to 1991 and 1992 total state or county population estimates published by the DES.

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\* *International Statistical Classification of Diseases, Injuries and Causes of Death*.  
Geneva: World Health Organization, 1977.

## SELECTED FINDINGS

This section presents some illustrative findings contained in the figures and tables of the report. It is not intended to be an exhaustive analysis of the tabulated data. When possible, United States data are given in order to provide a comparative context for the Arizona firearm-related mortality statistics.

- ❖ Firearms rank second, surpassed only by motor vehicles, as the leading cause of injury mortality both nationwide and in Arizona. Firearm-related injuries and motor vehicle collisions accounted for more than 5 out of every ten (55.3 percent) injury deaths in Arizona in 1998
- ❖ The number of firearm-related fatalities increased in Arizona by 3.8 percent, from 899 in 1997 to 933 in 1998 (**Table 2**).
- ❖ **Compared to national rate** **Arizonans were more likely to die from firearm injuries in each year from 1988 to 1998 (Figure 1, Table 1).** Each year in the nation, about 14 firearm-related fatalities occur for every 100,000 individuals. In Arizona,

annual rates of death by firearms ranged from 17 to 24/100,000 for the years 1988 to 1998.

- ❖ The Arizona age-adjusted firerarm-related mortality rate increased by 2.6 percent from 19.5 firearm-related deaths per 100,000 persons in 1997 to 20.0/100,000 in 1998 (**Table 1**).
- ❖ The 1998 Arizona firearm-related mortality rate was 83.5 percent higher than the national rate, and 43 percent higher than the *Arizona 2000* health objective of 14 weapon-related deaths per 100,000 population.
- ❖ While fourth digit ICD codes are available to identify the type of firearm that was used, the vast majority of weapon types are coded on death certificates as "other and unspecified" (**Table 3**).
- ❖ All but a small fraction of firearm-related fatalities are intentionally inflicted. Among 933 firearm-related deaths in 1998, 16 (or 1.7 percent) were classified as unintentionally inflicted firearm injuries, 569 (61 percent) as suicides, 318 (34.1 percent) as homicides, 17 (1.8 percent) were fatal injuries inflicted by the police or other law-enforcement agents, and 13 (1.4 percent) were un-

determined whether the injury was accidentally or purposely inflicted (**Figure 2**).

❖ The firearm-related death rate among Blacks (33.4/100,000) was the highest among ethnic groups in Arizona in 1998. It exceeded the corresponding rates for Asian, American Indian, non-Hispanic white, and Hispanic residents of Arizona by 542, 89, 53 and 49 percent respectively (**Figure 3**).

❖ Among non-Hispanic whites, firearm-related fatalities predominantly were a result of suicide (76.6 percent, **Figure 4**). In contrast, the majority of deaths from firearms were incurred in acts of homicide among Blacks (80 percent) and Hispanics (61.5 percent). Among American Indians, firearm-related fatalities were equally likely to be incurred in acts of homicide or suicide (44.4 percent).

❖ Firearm-related fatalities among ethnic minorities occurred at younger ages compared to firearm-related deaths among non-Hispanic whites (**Table 6**). Nine out of ten (89.9 percent) of 1998 firearm-related deaths for all ethnic minority groups combined were less than 45 years old, while only

53 percent of firearm-related deaths among white non-Hispanics were this young.

❖ The 1998 mortality rate from firearms among males (33.5/100,000) was 5.6 times greater than the rate of 6.0/100,000 among females (**Figure 5, Table 8**). Particularly high gender ratios in firearm mortality were evident in 1998 for Hispanics (male rate of 39.5 was 7.7 times the rate of 5.1 for females, **Figure 9**).

❖ Annual firearm-related homicide death rates among Arizona residents were at least 33 percent lower than the firearm-related suicide death rates from 1988 to 1998 (**Figure 6**).

❖ In each year from 1991 to 1997, annual firearm-related death rates among teenagers 15-19 years of age were the highest among the age groups. In 1998, the highest firearm-related death rate was among Arizonans 20-44 years old (**Table 1**).

❖ Between 1997 and 1998, the total firearm death rate among teenagers 15-19 years old decreased by 29.8 percent from 37.3 to 26.2 fatalities per 100,000 persons (**Table 1**). The

firearm-homicide rate decreased by 16.8 percent from 16.1/100,000 in 1997 to 13.4/100,000 in 1998 (**Figure 7, Table 15**). At the same time, the rate for firearm-suicide decreased by 33.9 percent from a rate of 18.0/100,000 in 1997 to 11.9/100,000 in 1998.

❖ In any given year between 1988 and 1998, the annual firearm death rates for Arizona teenagers have been higher than their death rates associated with natural causes of death (such as heart disease or cancer) combined (**Figure 8**). One of every three deaths among teenagers 15-19 years in 1998 was by firearm (86 out of 298).

❖ Sixty-seven of every 100 suicide deaths in Arizona (**Table 12**) and sixty-eight of every 100 murders (**Table 13**) involved firearms in 1998.

❖ In 1997 (the latest year for which the firearm death rates are available by State), the age-adjusted firearm mortality rates ranged from 3.5/100,000 in Massachusetts to 56.4/100,000 in the District of Columbia. Arizona ranked sixth highest in the nation (**Figure 14**).

❖ Among adolescents 15-19 years old in 1997, total firearm-related mortality rates ranged from 2.4/100,000 in Vermont to 240.9/100,000 in the District of Columbia. Arizona adolescents in this age group ranked second highest (**Figure 15**) among all states.

❖ Mortality rates for firearm-suicide ranged from a zero (no fatalities) in New Hampshire and Vermont to 18.0 per 100,000 adolescents 15-19 years old in Arizona (**Figure 16**), the highest rate in the nation.

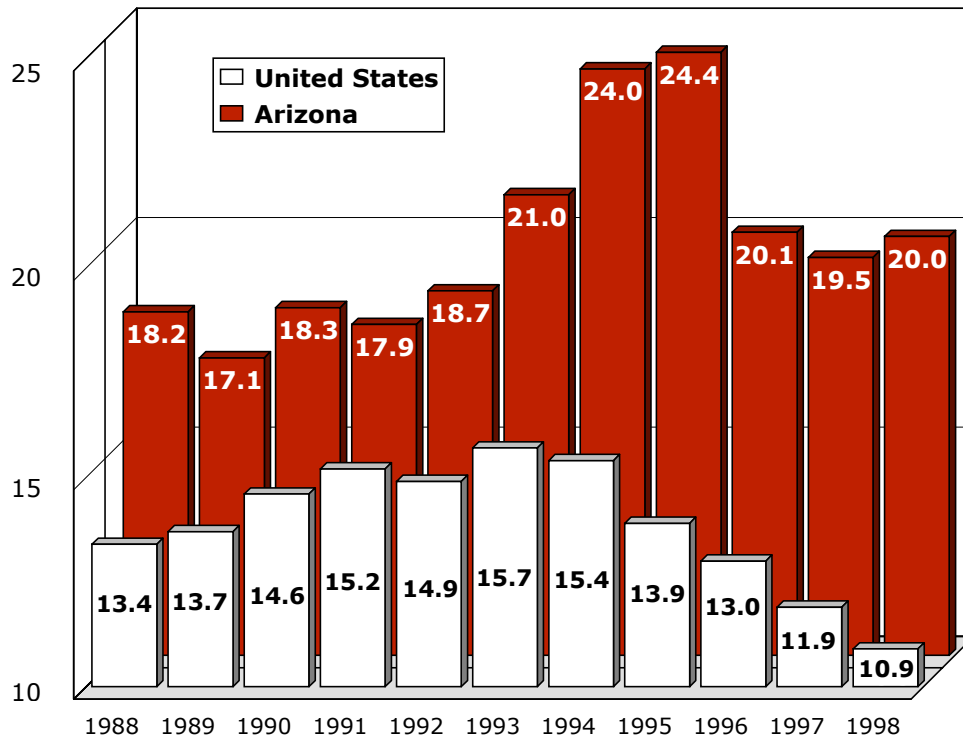
❖ Mortality rates for firearm-homicide ranged from a zero (no fatalities) in North and South Dakota and Vermont to 217.6 per 100,000 persons 15-19 years old in the District of Columbia. Arizona ranked seventh highest (**Figure 17**) among the 50 states and the District of Columbia.

**FIREARM-RELATED FATALITIES, ARIZONA, 1988-1998**

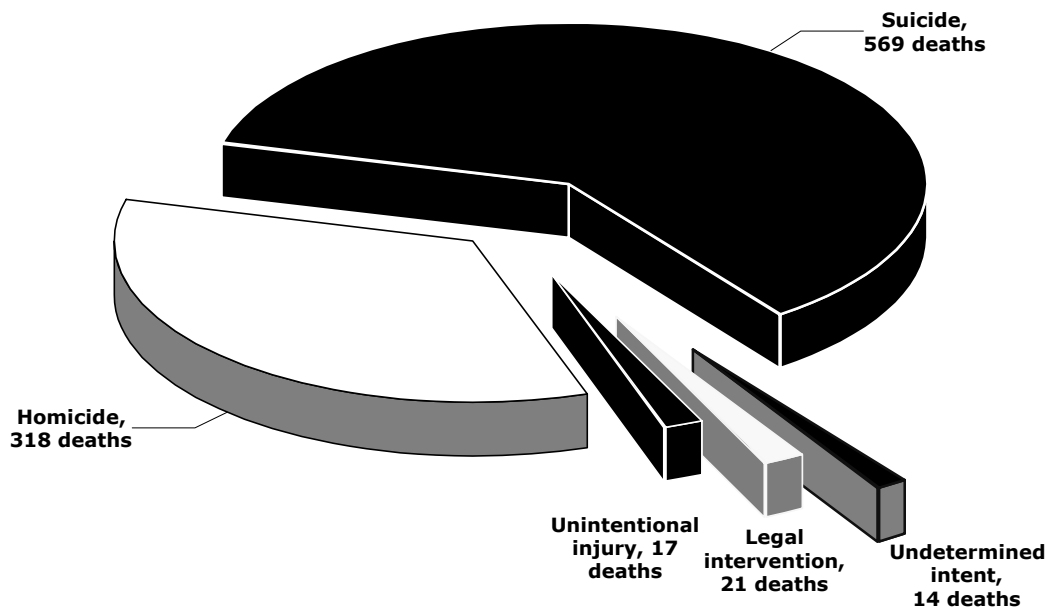
# **FIGURES**

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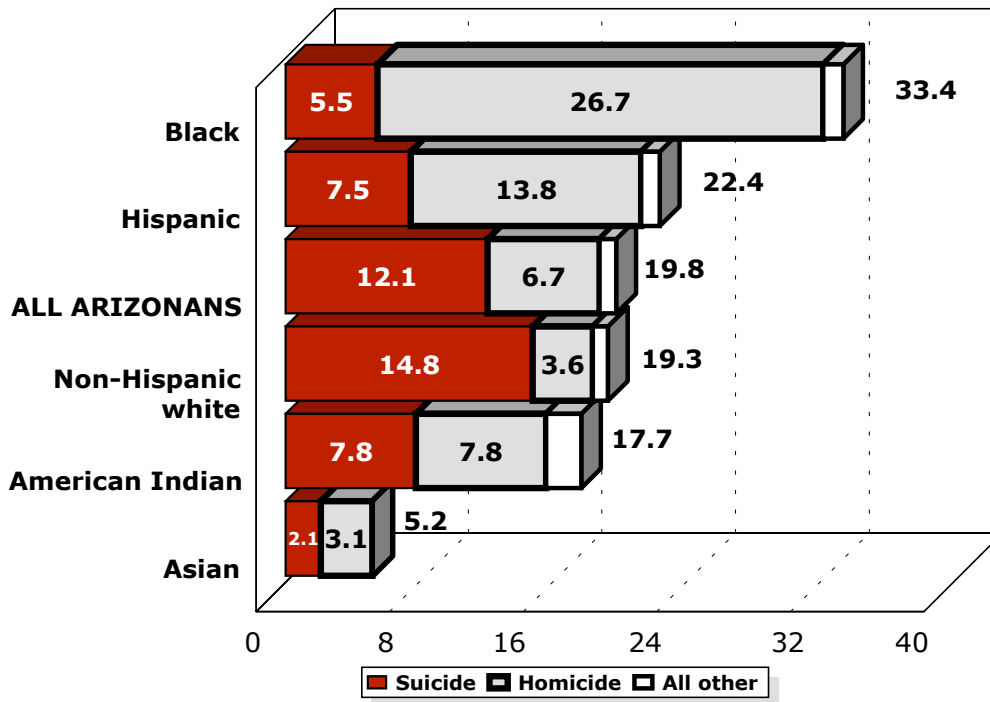
**Figure 1.**  
**Age Adjusted Firearm-Related Death Rates by Year,**  
**Arizona and United States, 1988-1998**



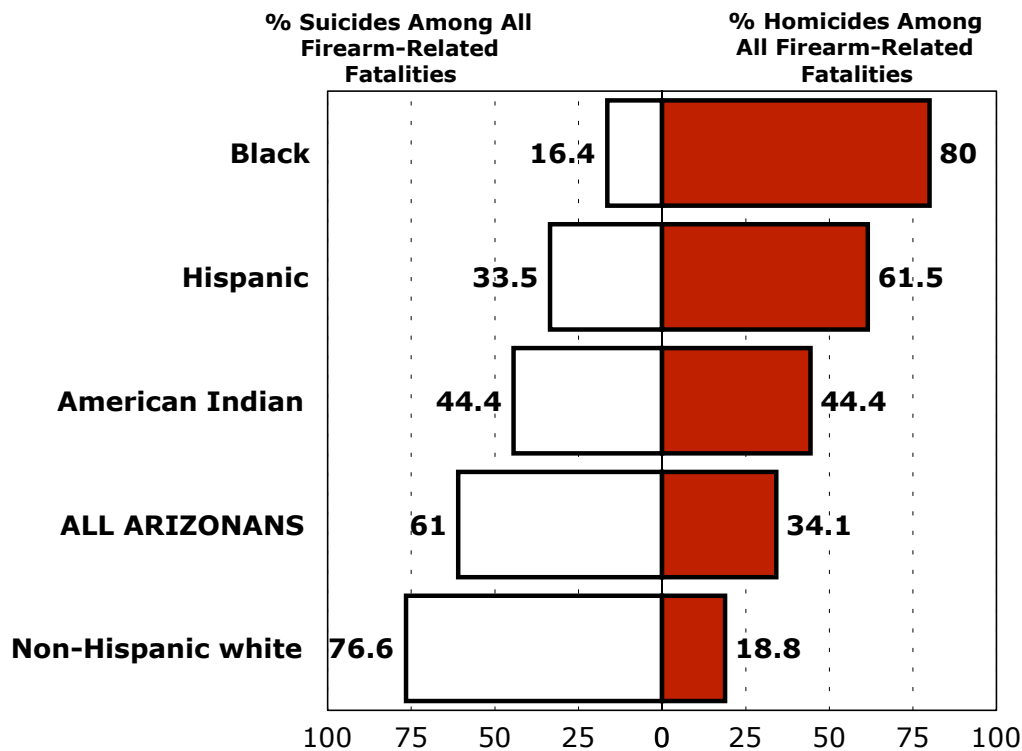
**Figure 2.**  
**Number of Firearm-Related Deaths by Cause Among**  
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**Figure 3.**  
**Firearm-Related Death Rates by Ethnic Group and Cause, Arizona, 1998**

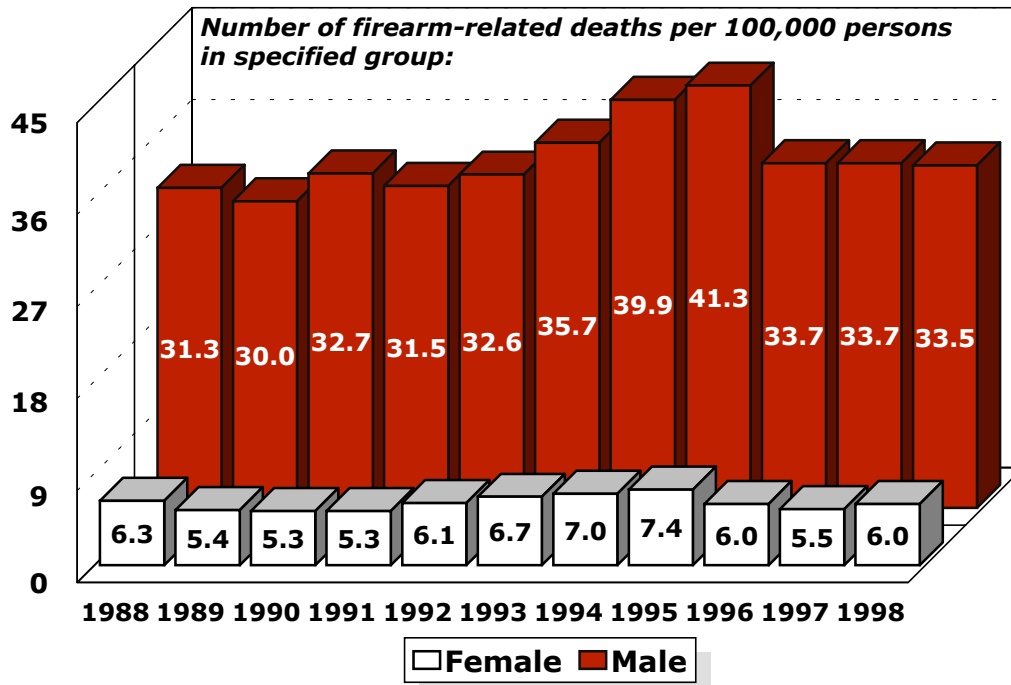


**Figure 4.**  
**Percent Firearm-Related Fatalities in Each Ethnic Group Attributed to Self-Inflicted Injuries in Suicide and Injuries Purposely Inflicted by Other Person in Homicide and Legal Intervention, Arizona, 1998**

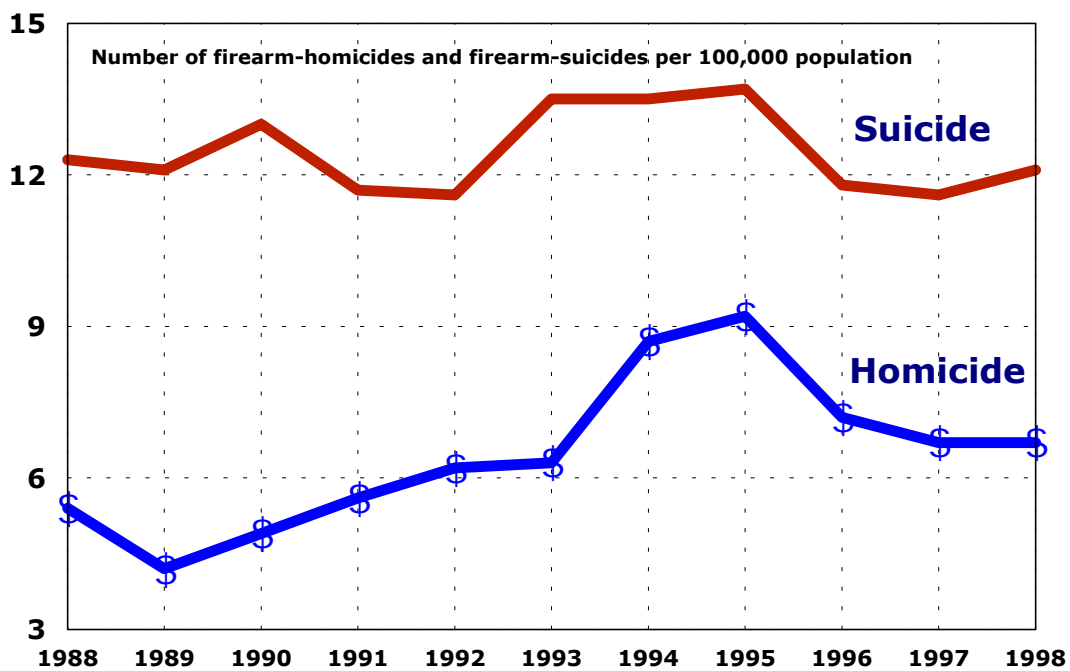




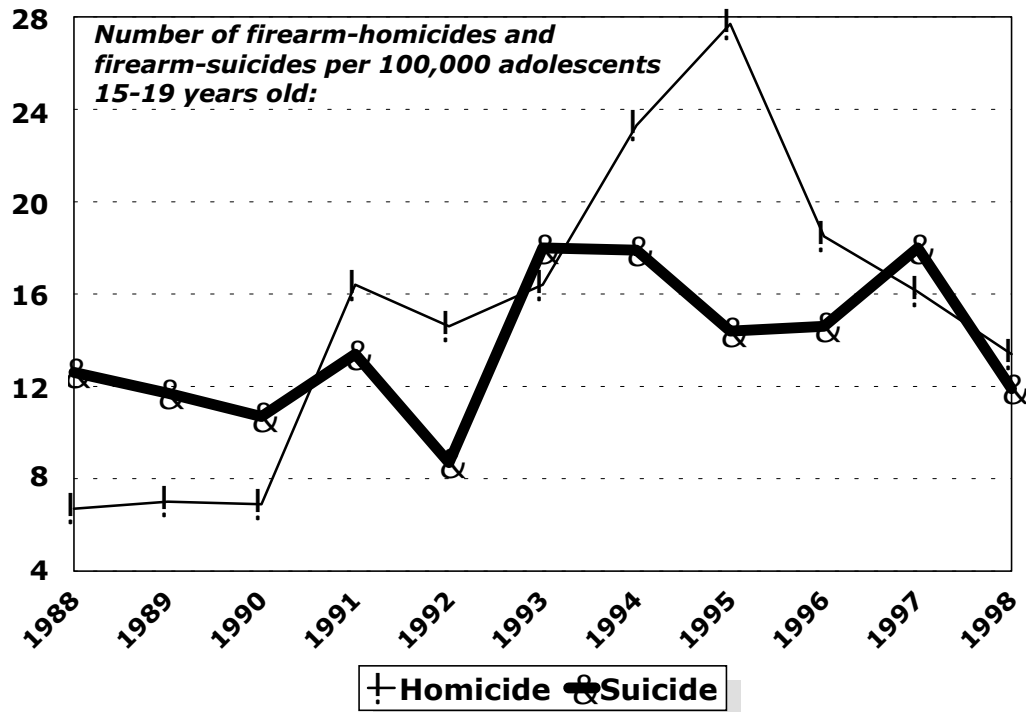
**Figure 5.**  
**Rates of Firearm-Related Fatalities by Gender and Year,**  
**Arizona, 1988-1998**



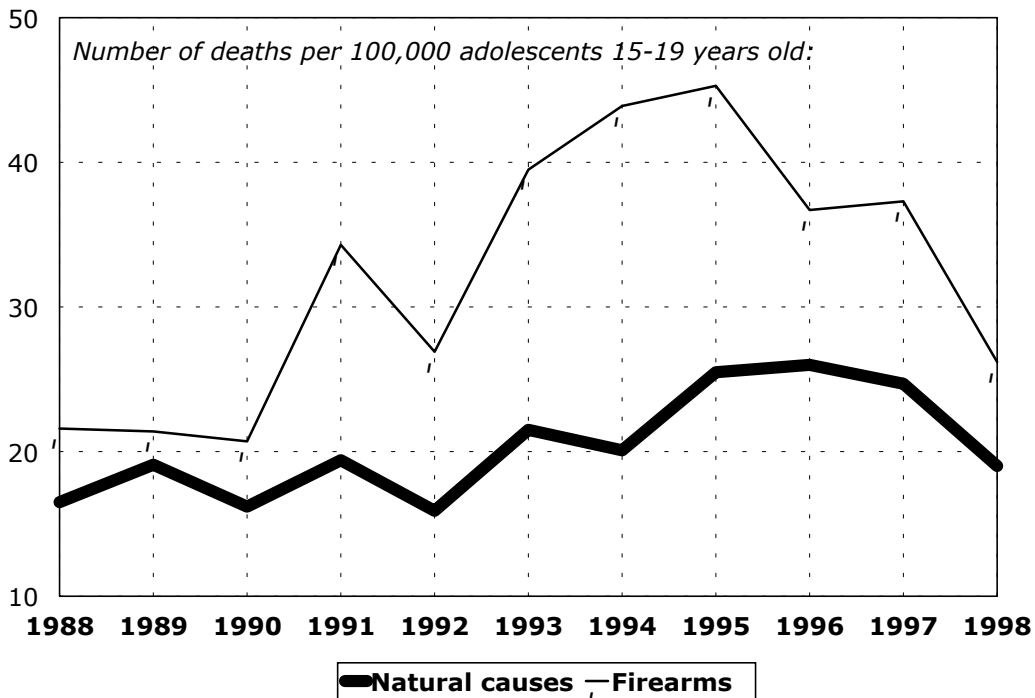
**Figure 6.**  
**Rates of Firearm-Homicides and Firearm-Suicides by Year**  
**Arizona, 1988-1998**



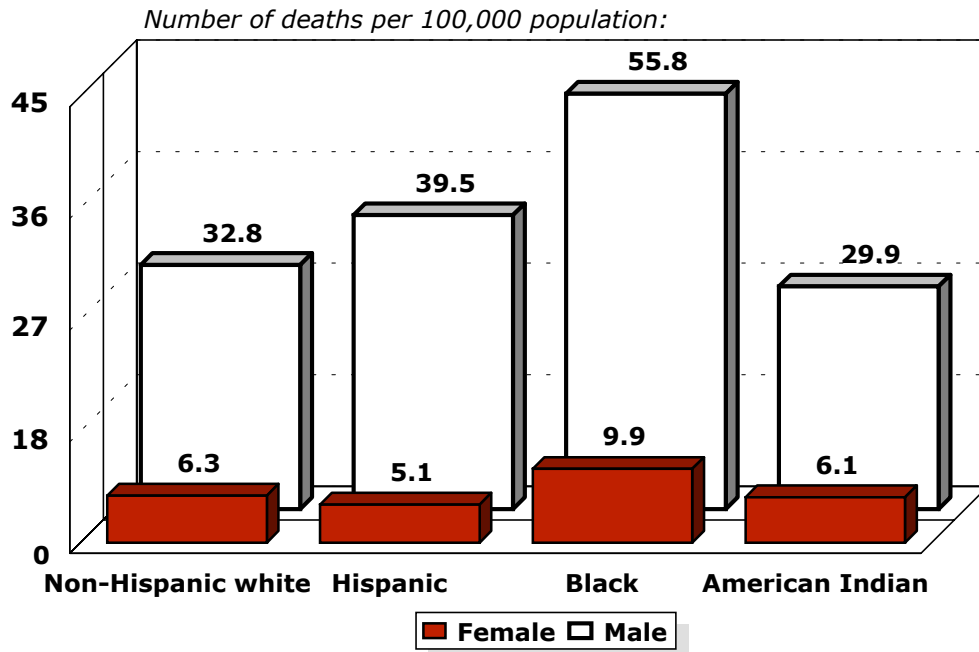
**Figure 7.**  
**Firearm-Homicides and Firearm-Suicides Among Adolescents**  
**15-19 Years Old, Arizona, 1988-1998**



**Figure 8.**  
**Mortality Rates For Natural Causes of Death and Firearm-Related**  
**Injuries Among Adolescents 15-19 Years Old,**  
**Arizona, 1988-1998**

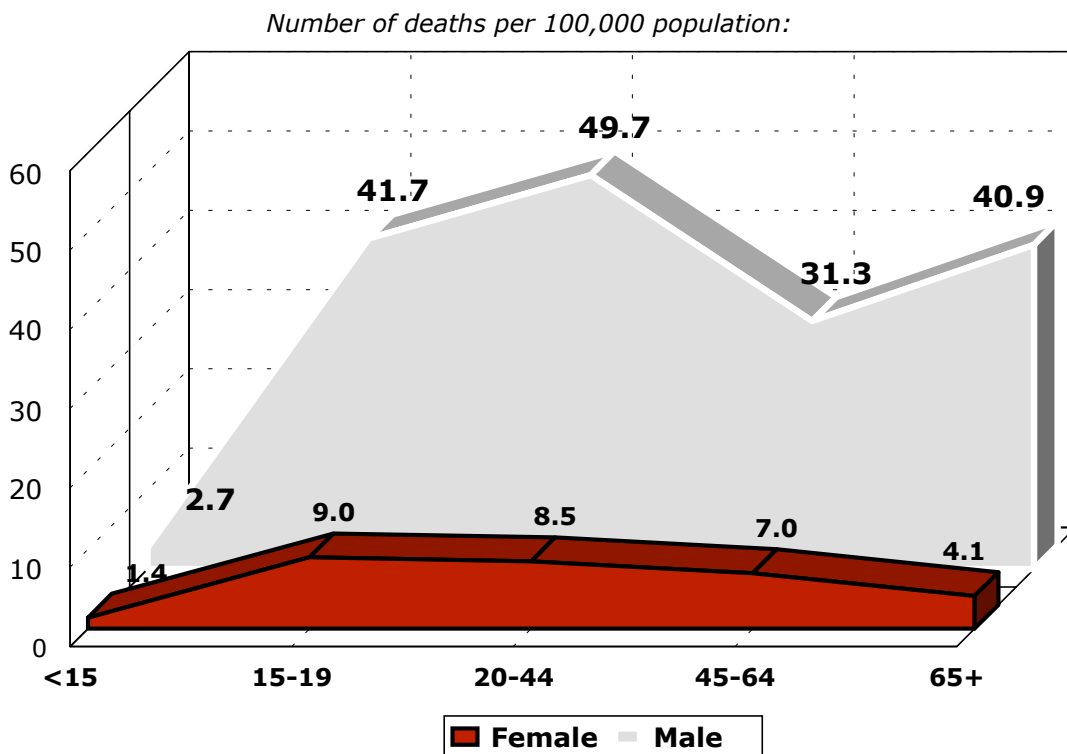


**Figure 9.**  
**Firearm-Related Death Rates by Gender and Ethnicity,\***  
**Arizona, 1998**

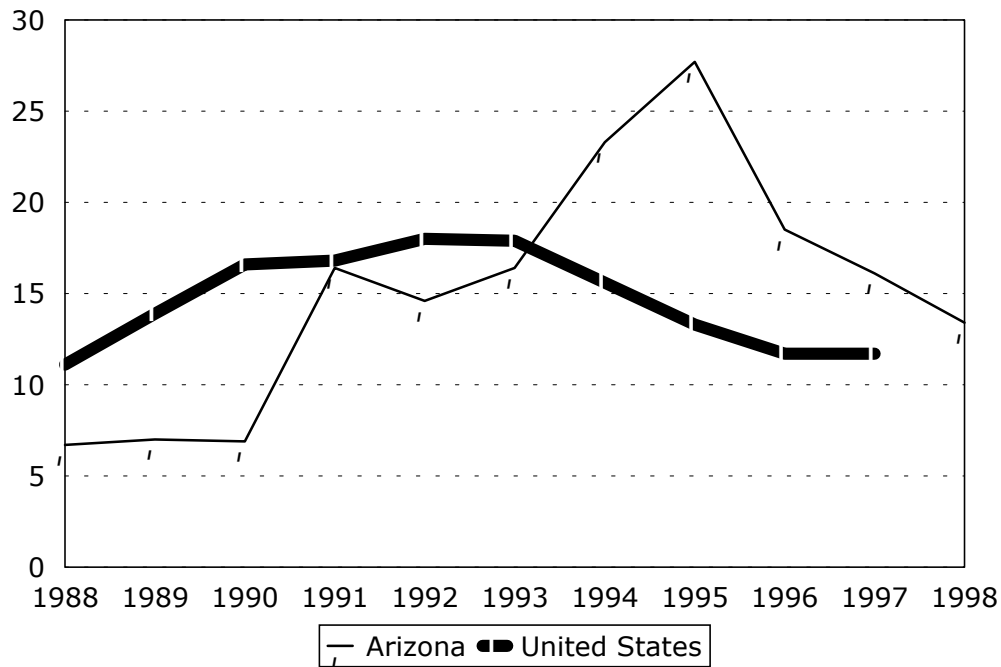


\*The gender-specific mortality rates for Asians do not meet standards of reliability and precision. There were only 5 firearm-related deaths among Asians in 1998.

**Figure 10.**  
**Firearm-Related Death Rates by Age Group and Gender,**  
**Arizona, 1998**

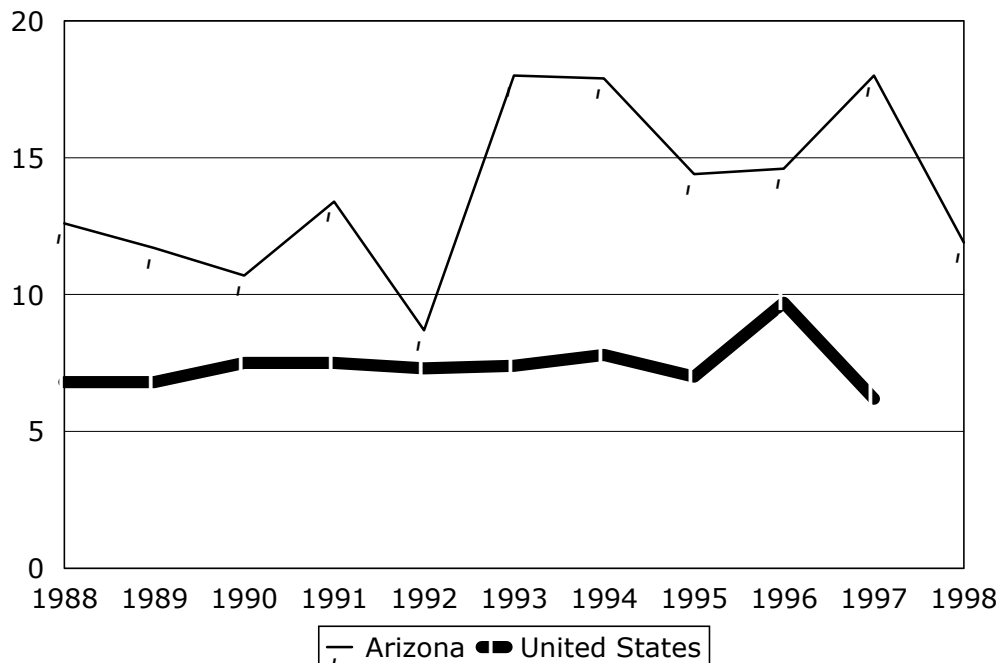


**Figure 11.**  
**Firearm Related Death Rates Associated with Homicide**  
**Among Adolescents 15-19 Years Old, Arizona 1988-1998**  
**and United States 1988-1997\***



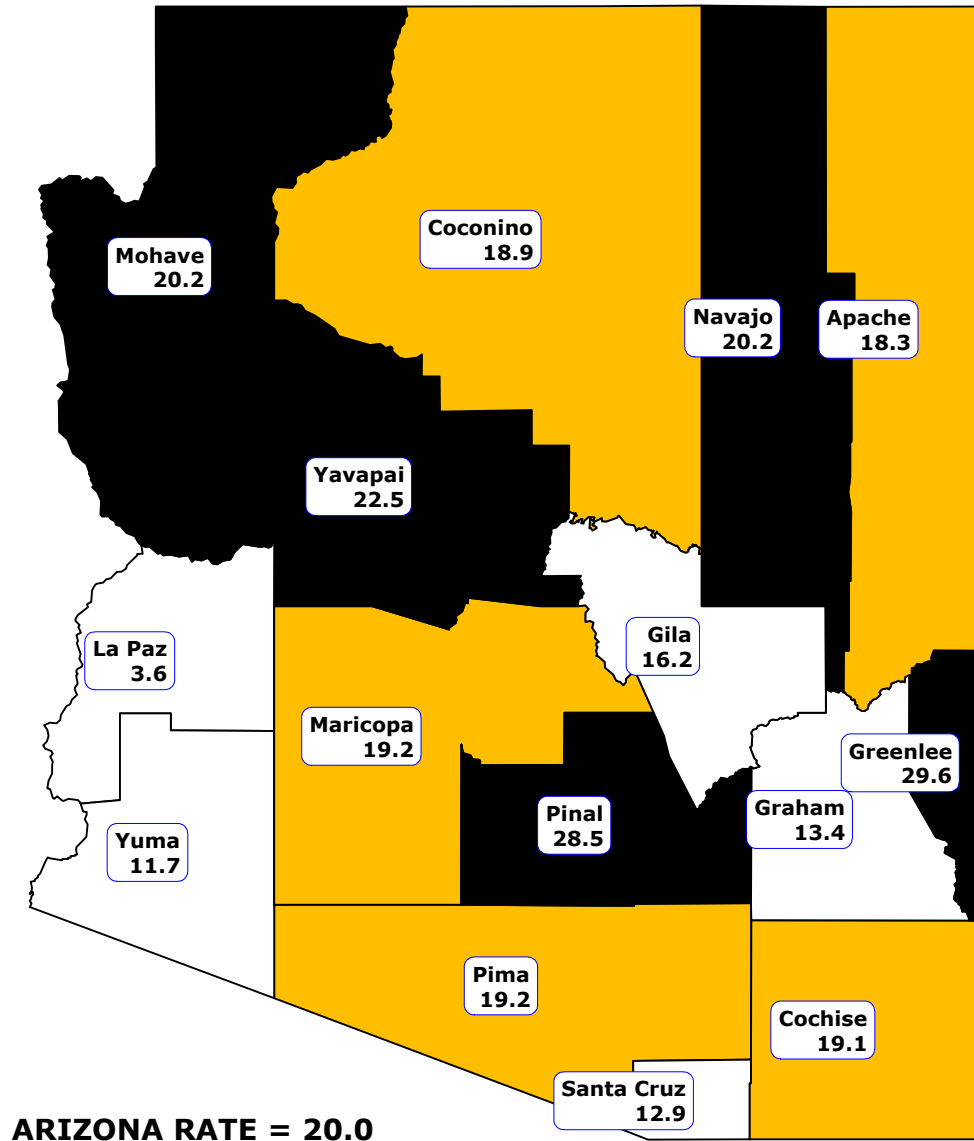
\*The latest year for which the U.S. data are available.

**Figure 12.**  
**Firearm Related Death Rates Associated with Suicide**  
**Among Adolescents 15-19 Years Old, Arizona 1988-1998**  
**and United States 1988-1997\***



\*The latest year for which the U.S. data are available.

**Figure 13.**  
**Firearm-Related Deaths**  
**by County of Residence, Arizona, 1998**



*Number of deaths per 100,000 population (age-adjusted):*



3.6 to 16.2

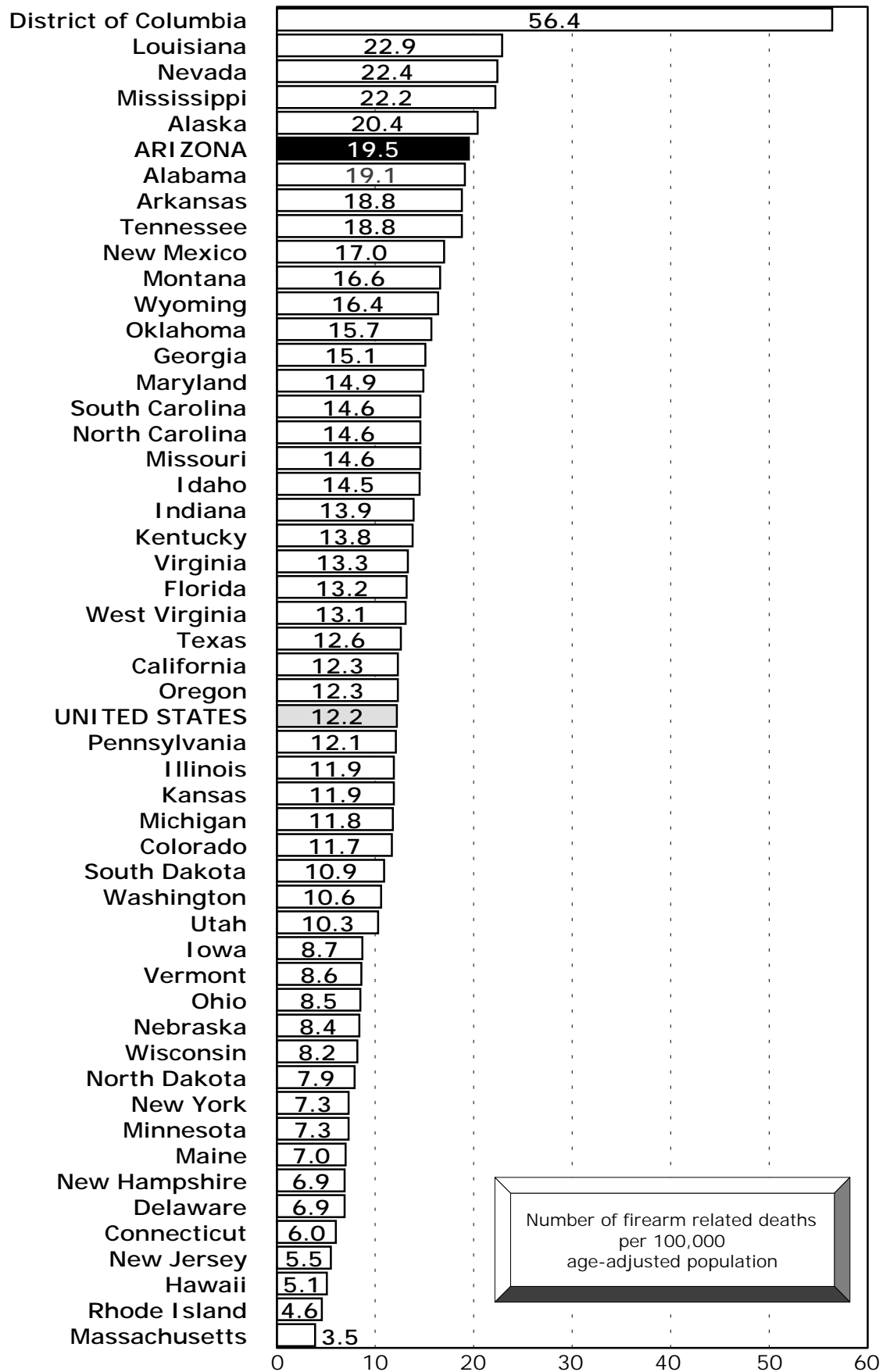


16.3 to 19.2



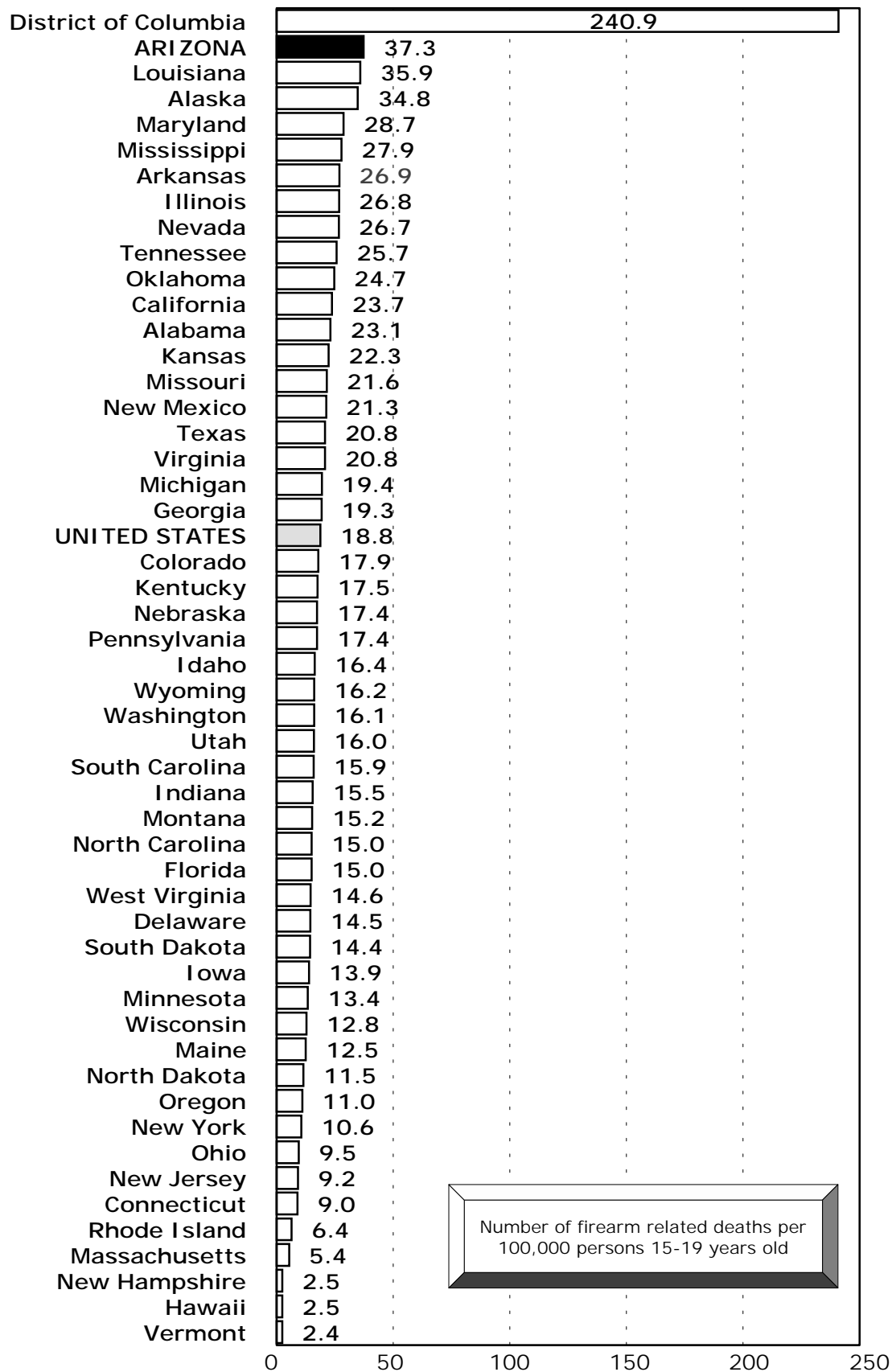
19.3 to 29.6

**FIGURE 14**  
**DEATH RATES FOR FIREARM-RELATED INJURIES BY STATE IN 1997\***



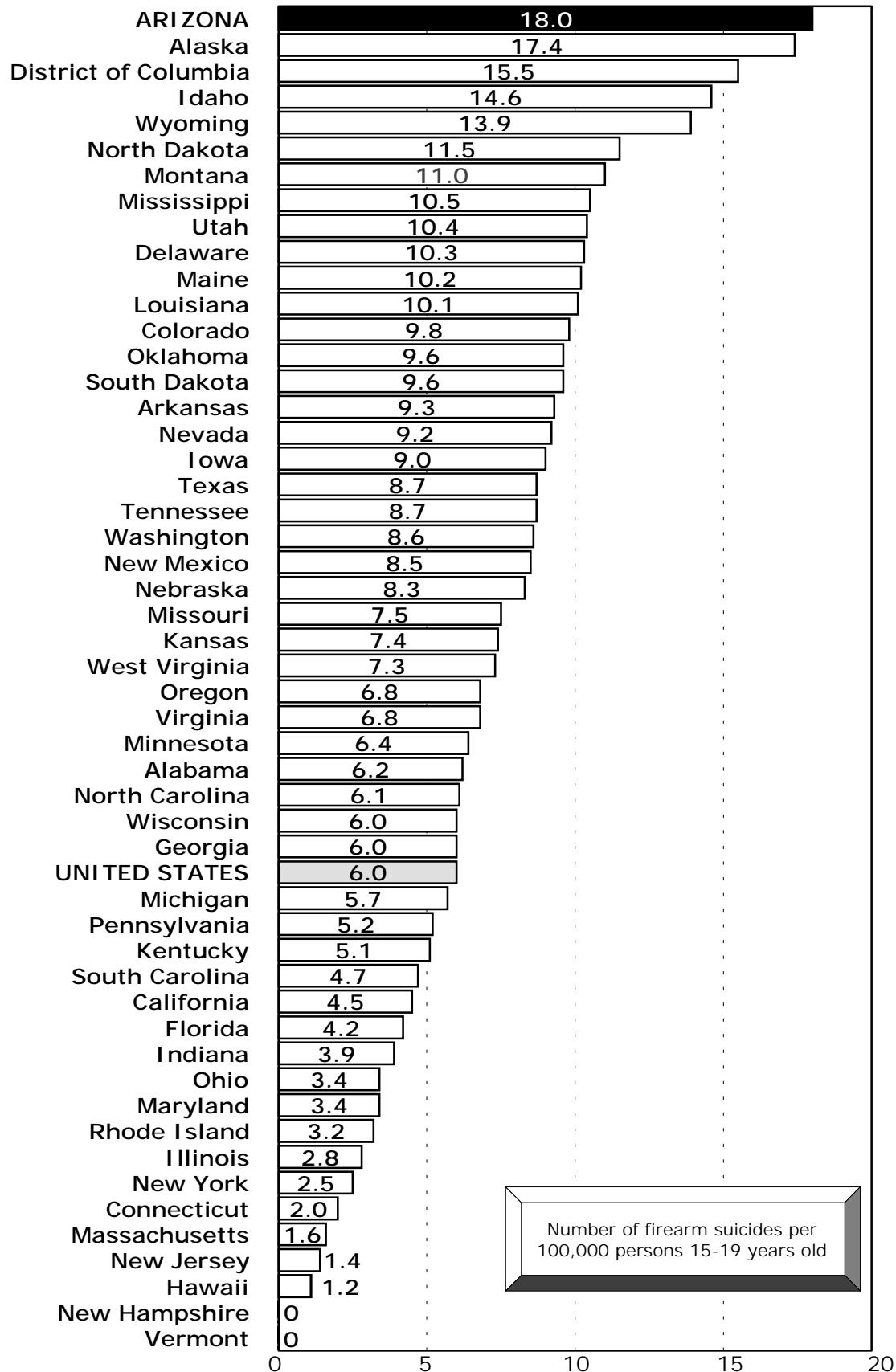
- This is the latest year for which the data are available by state, All rates except those for Arizona are from the Injury Mortality Dataset available at: <http://wonder.cdc.gov/injury.shtml>

**FIGURE 15**  
**DEATH RATES FOR FIREARM-RELATED INJURIES AMONG ADOLESCENTS**  
**15-19 YEARS OLD BY STATE IN 1997\***



- This is the latest year for which the data are available by state, All rates except those for Arizona are from the Injury Mortality Dataset available at: <http://wonder.cdc.gov/injury.shtml>

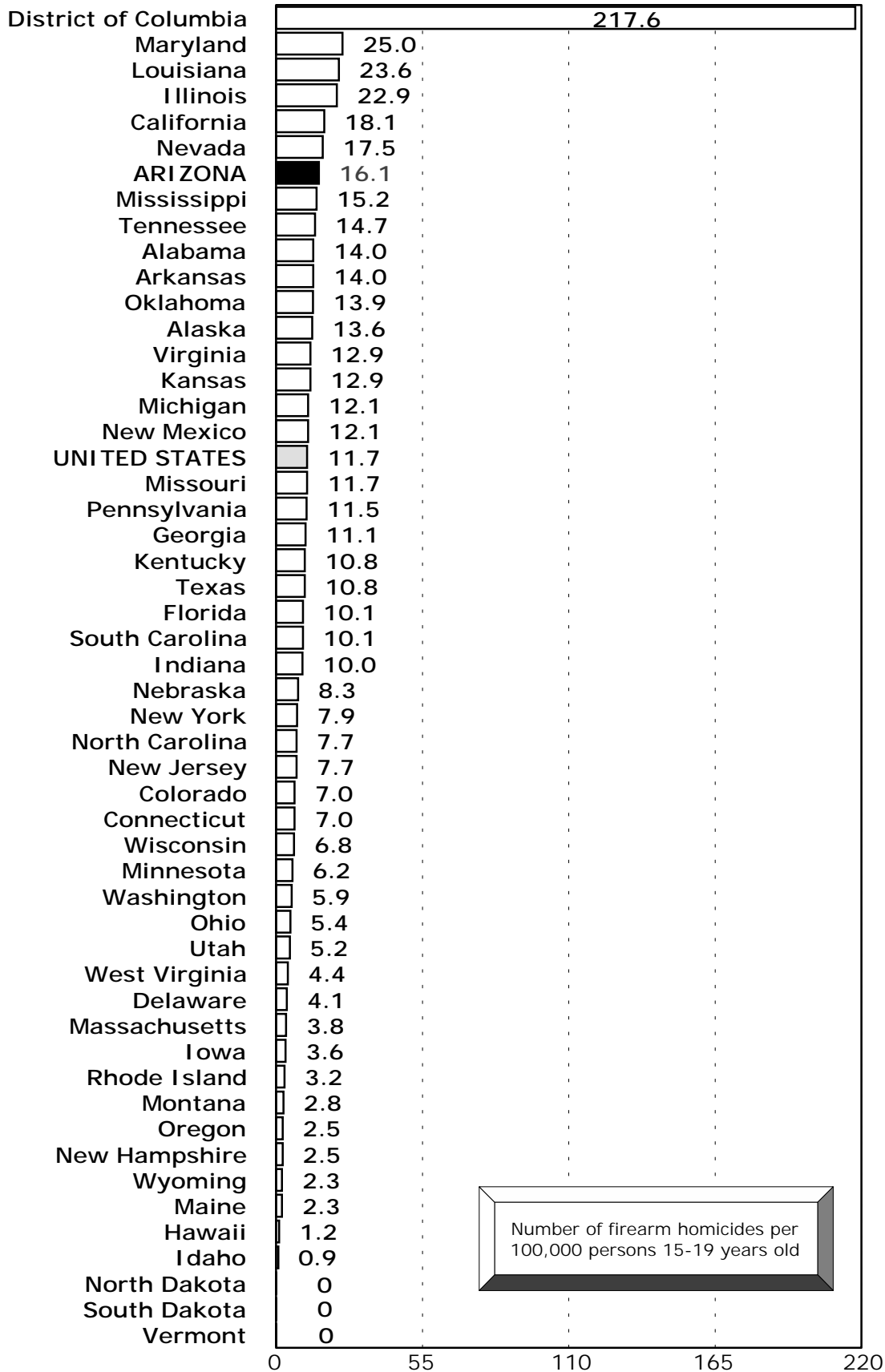
**FIGURE 16**  
**DEATH RATES FOR FIREARM-SUICIDES AMONG ADOLESCENTS**  
**15-19 YEARS OLD BY STATE IN 1997\***



• This is the latest year for which the data are available by state, All rates except those for Arizona are from the Injury Mortality Dataset available at: <http://wonder.cdc.gov/injury.shtml>



**FIGURE 17**  
**DEATH RATES FOR FIREARM-HOMICIDES AMONG ADOLESCENTS**  
**15-19 YEARS OLD BY STATE IN 1997\***



• This is the latest year for which the data are available by state, All rates except those for Arizona are from the Injury Mortality Dataset available at: <http://wonder.cdc.gov/injury.shtml>

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FIREARM-RELATED FATALITIES, ARIZONA, 1988-1998

# DATA TABLES

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**TABLE 1**  
**AGE-SPECIFIC AND AGE-ADJUSTED DEATH RATES<sup>a</sup> FOR INJURY BY FIREARMS,**  
**ARIZONA AND UNITED STATES, 1988-1998**

Age Group	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Under 5 <sup>b</sup>	1.2	1.2	.3	.7	1.0	0.3	1.2	0.9	0.6	---	.0.9
5-14	1.8	2.3	1.9	2.0	4.8	5.3	2.5	4.1	2.4	2.2	2.7
15-19	21.6	21.4	20.7	34.3	26.9	39.5	43.9	45.3	36.7	37.3	26.2
20-44	25.3	22.2	25.8	22.9	24.0	28.1	34.0	35.4	28.7	29.0	29.5
45-64	20.2	20.0	20.2	18.9	21.2	17.8	20.7	19.5	17.8	16.4	18.7
65 and Over	25.3	28.1	24.9	23.6	23.8	26.9	22.7	23.9	19.3	19.1	20.4
Total	18.6	17.5	18.9	18.3	19.2	21.1	23.3	24.1	19.8	19.6	19.8
Arizona Age-Adjusted Rate <sup>c</sup>	18.2	17.1	18.3	17.9	18.7	21.0	24.0	24.4	20.1	19.5	20.0
U.S. Age-Adjusted Rate <sup>c</sup>	13.4	13.7	14.6	15.2	14.9	15.7	15.4	13.9	13.0	11.9	10.9

<sup>a</sup> Number of deaths by firearms per 100,000 population in specified age group.

<sup>b</sup> 0 - 4 years old.

<sup>c</sup> Adjusted to U.S. population of 1940.

**TABLE 2**  
**NUMBER OF FIREARM-RELATED FATALITIES BY CAUSE\*, AGE GROUP**  
**AND YEAR, ARIZONA, 1988-1998**

		Year										
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
<5	Unintentional injury	3	1	0	1	1	1	2	0	0	0	1
	Homicide	1	3	1	1	2	0	2	3	1	2	1
	Undetermined	0	0	0	0	0	0	0	0	1	0	1
	Total	4	4	1	2	3	1	4	3	2	2	3
5-14	Unintentional injury	1	4	2	3	5	8	3	6	2	4	2
	Suicide	2	3	0	5	6	9	4	7	4	3	5
	Homicide	7	5	7	2	16	13	4	11	10	6	10
	Legal intervention	0	0	0	0	0	0	0	0	0	0	1
	Undetermined	0	1	1	1	0	1	4	1	0	0	1
	Total	10	13	10	11	27	31	15	25	16	13	19
15-19	Unintentional injury	5	7	7	5	8	10	2	4	4	2	2
	Suicide	32	30	28	36	24	46	47	40	45	57	39
	Homicide	17	15	18	44	40	42	61	77	57	51	44
	Legal intervention	0	3	0	1	1	0	1	4	3	4	0
	Undetermined	1	0	1	6	1	3	4	1	4	4	1
	Total	55	55	54	92	74	101	115	126	113	118	86
20-44	Unintentional injury	6	13	8	7	12	13	10	18	6	6	10
	Suicide	211	198	235	190	197	247	284	277	255	258	256
	Homicide	127	101	119	133	137	160	224	241	205	212	229
	Legal intervention	7	10	10	5	15	7	7	10	11	14	12
	Undetermined	6	2	1	4	4	6	6	9	3	7	6
	Total	357	324	373	339	365	433	531	555	480	497	513
45-64	Unintentional injury	1	1	1	3	0	1	4	0	0	4	1
	Suicide	92	96	100	103	110	104	109	114	110	105	141
	Homicide	29	27	27	20	36	18	36	38	38	33	26
	Legal intervention	1	0	2	0	2	2	1	3	2	3	4
	Undetermined	1	3	1	0	0	1	2	0	1	1	3
	Total	124	127	131	126	148	126	152	155	151	146	175
65+	Unintentional injury	0	0	0	0	3	0	1	0	0	1	0
	Suicide	101	122	113	104	112	126	100	131	111	113	128
	Homicide	9	6	6	12	5	13	19	8	8	6	6
	Undetermined	1	0	0	0	0	0	0	0	0	2	1
	Total	111	128	119	116	120	139	120	139	119	122	135
Unknown	Suicide	0	0	0	0	0	0	0	1	0	0	0
	Total	0	0	0	0	0	0	0	1	0	0	0
TOTAL	Unintentional injury	16	26	18	19	29	33	22	28	12	17	16
	Suicide	441	449	477	439	449	532	544	571	527	537	569
	Homicide	195	158	180	212	238	247	349	383	320	310	318
	Legal intervention	8	13	12	6	18	9	9	17	16	21	17
	Undetermined	9	7	4	11	5	11	16	11	9	14	13
	Total	669	653	691	687	739	832	940	1010	884	899	933

**TABLE 3**  
**NUMBER OF FIREARM-RELATED FATALITIES BY TYPE OF FIREARM**  
**AND YEAR, ARIZONA, 1988-1998**

	Year										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
<b>Hand Gun</b>	171	203	233	278	244	207	186	208	149	167	210
<b>Shotgun</b>	51	45	40	47	48	41	38	49	66	57	68
<b>Hunting Rifle</b>	24	24	28	29	27	12	30	29	21	29	29
<b>Military Firearm</b>	2	0	0	2	2	1	1	0	0	1	0
<b>Other and unspecified</b>	421	381	390	331	418	571	685	724	648	645	626
<b>Total</b>	669	653	691	687	739	832	940	1010	884	899	933

**TABLE 4**  
**NUMBER OF FIREARM-RELATED FATALITIES BY RACE/ETHNICITY**  
**AND YEAR, ARIZONA, 1988-1998**

	Year										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
<b>Non-Hispanic white</b>	494	507	513	470	498	576	590	647	545	552	606
<b>Hispanic</b>	95	91	99	118	154	170	215	251	238	235	221
<b>Black</b>	35	30	39	42	44	45	75	63	46	60	55
<b>American Indian</b>	35	21	34	41	35	35	52	40	51	45	45
<b>Asian</b>	1	0	1	0	7	6	7	5	2	7	5
<b>Unknown</b>	5	1	1	3	1	0	1	4	2	0	1
<b>Total</b>	665	650	687	674	739	832	940	1010	884	899	933

**TABLE 5**  
**NUMBER OF FIREARM-RELATED FATALITIES BY RACE/ETHNICITY AND GENDER BY YEAR,**  
**ARIZONA, 1988-1998**

		Year										
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Non-Hispanic white	Male	407	428	433	400	404	476	491	539	445	451	505
	Female	87	79	80	70	94	100	99	108	100	101	101
	Total	494	507	513	470	498	576	590	647	545	552	606
Hispanic	Male	82	74	89	103	138	149	189	219	222	220	196
	Female	13	17	10	15	16	21	26	32	16	15	25
	Total	95	91	99	118	154	170	215	251	238	235	221
Black	Male	30	26	34	36	39	39	66	56	39	56	47
	Female	5	4	5	6	5	6	9	7	7	4	8
	Total	35	30	39	42	44	45	75	63	46	60	55
American Indian	Male	28	20	32	33	33	30	43	33	40	40	37
	Female	7	1	2	8	2	5	9	7	11	5	8
	Total	35	21	34	41	35	35	52	40	51	45	45
Asian	Male	1	0	0	0	6	4	6	3	2	6	4
	Female	0	0	1	0	1	2	1	2	0	1	1
	Total	1	0	1	0	7	6	7	5	2	7	5
Unknown	Male	5	1	1	3	1	0	1	4	2	0	1
	Total	5	1	1	3	1	0	1	4	2	0	1
TOTAL	Male	555	551	592	586	621	698	796	854	750	773	790
	Female	114	102	99	101	118	134	144	156	134	126	143
	Total	669	653	691	687	739	832	940	1010	884	899	933



**TABLE 6**  
**NUMBER OF FIREARM-RELATED FATALITIES BY CAUSE, AGE GROUP AND RACE/ETHNICITY,**  
**ARIZONA, 1998**

			Unintentional injury	Suicide	Homicide	Legal intervention	Undetermined	Total
R A C E / E T H N I C I T Y	Non- Hispanic white	<5	0	0	0	0	1	1
		5-14	0	4	8	1	1	14
		15-19	0	20	8	0	1	29
		20-44	5	190	73	8	4	280
		45-64	1	127	18	3	3	152
		65+	0	123	6	0	0	129
		Unknown	0	0	1	0	0	1
		Total	6	464	114	12	10	606
	Hispanic	<5	1	0	0	0	0	1
		5-14	0	1	0	0	0	1
		15-19	1	13	25	0	0	39
		20-44	4	46	106	2	1	159
		45-64	0	10	5	1	0	16
		65+	0	4	0	0	1	5
		Total	6	74	136	3	2	221
	Black	5-14	0	0	1	0	0	1
		15-19	1	1	6	0	0	8
		20-44	0	5	35	1	0	41
		45-64	0	3	2	0	0	5
		Total	1	9	44	1	0	55
	American Indian	<5	0	0	1	0	0	1
		5-14	2	0	1	0	0	3
		15-19	0	3	3	0	0	6
		20-44	1	15	14	1	1	32
		45-64	0	1	1	0	0	2
		65+	0	1	0	0	0	1
		Total	3	20	20	1	1	45
	Asian	15-19	0	2	2	0	0	4
		20-44	0	0	1	0	0	1
		Total	0	2	3	0	0	5
ALL GROUPS	<5		1	0	1	0	1	3
	5-14		2	5	10	1	1	19
	15-19		2	39	44	0	1	86
	20-44		10	256	229	12	6	513
	45-64		1	141	26	4	3	175
	65+		0	128	6	0	1	135
	Unknown		0	0	2	0	0	2
	Total		16	569	318	17	13	933

**TABLE 7**  
**NUMBER OF FIREARM-RELATED FATALITIES BY CAUSE AND GENDER, BY YEAR,**  
**ARIZONA, 1988-1998**

		Year										
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Male	Unintentional injury	12	22	17	16	28	27	21	27	12	14	14
	Suicide	380	387	415	385	383	459	467	480	450	463	490
	Homicide	147	123	147	169	189	194	285	321	263	268	259
	Legal intervention	8	13	9	6	16	8	9	17	16	18	16
	Undetermined	8	6	4	10	5	10	14	9	9	10	11
	Total	555	551	592	586	621	698	796	854	750	773	790
Female	Unintentional injury	4	4	1	3	1	6	1	1	0	3	2
	Suicide	61	62	62	54	66	73	77	91	77	74	79
	Homicide	48	35	33	43	49	53	64	62	57	42	59
	Legal intervention	0	0	3	0	2	1	0	0	0	3	1
	Undetermined	1	1	0	1	0	1	2	2	0	4	2
	Total	114	102	99	101	118	134	144	156	134	126	143
TOTAL	Unintentional injury	16	26	18	19	29	33	22	28	12	17	16
	Suicide	441	449	477	439	449	532	544	571	527	537	569
	Homicide	195	158	180	212	238	247	349	383	320	310	318
	Legal intervention	8	13	12	6	18	9	9	17	16	21	17
	Undetermined	9	7	4	11	5	11	16	11	9	14	13
	Total	669	653	691	687	739	832	940	1010	884	899	933

**TABLE 8**  
**NUMBER OF DEATHS BY FIREARMS AND RATE<sup>a</sup> OF FIREARM-RELATED**  
**FATALITIES BY GENDER AND AGE GROUP, ARIZONA, 1998**

	MALE		FEMALE		TOTAL	
Age Group	Number	Rate	Number	Rate	Number	Rate
Under 5	3	1.7	0	--	3	0.9
5-14	12	23.2	7	2.1	19	2.7
15-19	72	41.7	14	9.0	86	26.2
20-44	440	49.7	73	8.5	513	29.5
45-64	141	31.3	34	7.0	175	18.7
65 +	120	40.9	15	4.1	135	20.4
Unknown	2	---	0	---	2	---
<b>TOTAL</b>	<b>790</b>	<b>33.5</b>	<b>143</b>	<b>6.0</b>	<b>933</b>	<b>19.8</b>

<sup>a</sup> Number of firearm-related fatalities per 100,000 population in specified group.

**TABLE 9**  
**NUMBER OF DEATHS BY FIREARMS BY CAUSE AND AGE GROUP AND RATES OF**  
**FIREARM-RELATED FATALITIES IN URBAN\* AND RURAL AREAS, ARIZONA, 1998**

		Unintentional injury	Suicide	Homicide	Legal intervention	Undetermined	Total
Urban	<5	1	0	1	0	0	2
	5-14	2	4	8	1	1	16
	15-19	1	31	41	0	1	74
	20-44	5	197	201	11	5	419
	45-64	0	114	17	1	3	135
	65+	0	85	5	0	1	91
	Unknown	0	0	2	0	0	2
	Total	9	431	275	13	11	739
	Rate	.2	11.0	7.0	.3	.3	18.9
Rural	<5	0	0	0	0	1	1
	5-14	0	0	1	0	0	1
	15-19	1	8	2	0	0	11
	20-44	3	41	22	1	1	68
	45-64	1	26	9	3	0	39
	65+	0	43	1	0	0	44
	Total	5	118	35	4	2	164
	Rate	.6	14.4	4.3	.5	.2	20.1
TOTAL	<5	1	0	1	0	1	3
	5-14	2	5	10	1	1	19
	15-19	2	39	44	0	1	86
	20-44	10	256	229	12	6	513
	45-64	1	141	26	4	3	175
	65+	0	128	6	0	1	135
	Unknown	0	0	2	0	0	2
	Total	16	569	318	17	13	933
	Rate	.3	12.1	6.7	.4		19.8

\* Maricopa, Pima, Pinal and Yuma counties. The remaining counties comprise Arizona's rural areas.

**TABLE 10**  
**RATE\* OF FIREARM-RELATED DEATHS BY COUNTY OF RESIDENCE AND YEAR**  
**ARIZONA, 1988-1998**

County	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Apache	21.7	12.1	11.4	19.2	14.3	6.2	6.1	12.5	27.9	26.0	15.1
Cochise	15.5	10.5	18.4	23.2	18.8	18.5	34.6	22.8	10.5	15.4	21.1
Coconino	9.5	13.3	9.3	10.1	12.8	14.5	17.9	21.0	19.4	12.1	19.3
Gila	22.2	31.7	32.3	9.9	31.2	30.9	25.9	38.4	26.5	21.6	23.4
Graham	16.3	12.0	3.8	11.1	18.1	21.3	17.5	22.3	6.4	12.4	15.0
Greenlee	31.5	--	--	--	24.0	11.8	23.4	35.3	23.1	22.9	22.5
La Paz	56.0	76.1	36.1	42.8	33.7	33.2	32.7	24.2	38.5	31.9	5.2
Maricopa	17.5	17.2	18.9	17.3	18.3	20.8	22.0	24.6	18.8	18.4	18.6
Mohave	29.5	23.9	34.2	28.3	36.9	33.9	31.0	28.5	20.4	18.8	22.5
Navajo	14.2	16.4	16.7	15.2	17.4	22.0	19.3	19.3	17.8	23.4	18.5
Pima	19.4	16.6	17.1	18.6	18.4	19.7	19.5	20.4	18.2	18.8	19.6
Pinal	31.7	16.8	30.9	33.6	21.2	19.2	27.6	23.5	28.5	19.5	26.1
Santa Cruz	9.9	9.7	3.4	19.4	19.3	9.4	18.4	12.1	8.9	13.9	10.9
Yavapai	22.5	33.7	30.6	20.5	25.4	24.7	29.9	28.2	20.7	25.1	25.0
Yuma	16.4	17.1	7.5	13.5	12.4	11.3	21.2	16.3	10.4	14.0	13.7
ARIZONA	18.6	17.5	18.9	18.5	19.2	21.1	23.3	24.1	19.8	19.6	19.8

\* Number of firearm-related fatalities per 100,000 population in specified group.

Note: Many rates shown above are based on a small population, small number of events, or both. Rates based on small numbers (10 or less) are not statistically reliable.

**TABLE 11**  
**NUMBER OF DEATHS BY FIREARMS BY COUNTY OF RESIDENCE AND YEAR,**  
**ARIZONA, 1988-1998**

	Year										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
APACHE	14	8	7	12	9	4	4	8	18	17	10
COCHISE	16	11	18	23	19	19	36	25	12	18	25
COCONINO	9	13	9	10	13	15	19	23	22	14	23
GILA	9	13	13	4	13	13	11	17	12	10	11
GRAHAM	4	3	1	3	5	6	5	7	2	4	5
GREENLEE	3	0	0	0	2	1	2	3	2	2	2
MARICOPA	8	11	5	6	409	475	515	597	496	501	521
MOHAVE	363	371	401	378	39	37	35	36	26	25	31
NAVAJO	24	20	32	28	14	18	16	16	15	20	16
PIMA	11	13	13	12	129	141	143	152	142	150	160
PINAL	133	118	114	127	26	24	35	32	41	29	40
SANTA CRUZ	35	19	36	40	6	3	6	4	3	5	4
YAVAPAI	3	3	1	6	29	29	36	36	28	35	36
YUMA	22	34	33	23	14	13	25	20	13	18	18
LA PAZ	15	16	8	15	5	5	5	4	7	6	1
UNKNOWN	0	0	0	0	7	29	47	30	45	45	30
Total	669	653	691	687	739	832	940	1010	884	899	933

**TABLE 12**  
**NUMBER OF SUICIDES BY FIREARMS AND TOTAL SUICIDES BY AGE GROUP AND YEAR,**  
**ARIZONA, 1988-1998**

Age Group	Cause	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
5-14	All Suicides	5	3	4	6	10	11	9	11	7	7	12
	# by Firearms	2	3	0	5	6	9	4	7	4	3	5
15-19	All Suicides	47	48	42	49	34	58	62	52	56	75	50
	# by Firearms	32	30	28	36	24	46	47	40	45	57	39
20-44	All Suicides	337	328	346	299	318	378	439	454	392	413	425
	# by Firearms	211	198	235	190	197	247	284	277	255	258	256
45-64	All Suicides	130	134	149	158	149	157	165	170	161	160	201
	# by Firearms	92	96	100	103	110	104	109	114	110	105	141
65 and Over	All Suicides	143	156	150	144	148	151	141	170	144	154	156
	# by Firearms	101	122	113	104	112	126	100	132	111	113	128
All Ages <sup>a</sup>	Total Suicides	666	669	692	658	660	755	816	858	762	810	845
	# by Firearms	441	449	477	439	449	532	544	571	527	537	569
	% by Firearms	66.2	67.1	68.9	66.7	68.0	70.5	66.7	66.6	69.2	65.1	67.3

<sup>a</sup>Includes records with unknown or unspecified age.

**TABLE 13**  
**NUMBER OF HOMICIDES BY FIREARMS AND TOTAL HOMICIDES BY AGE GROUP**  
**AND YEAR, ARIZONA, 1988-1998**

Age Group	Cause	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Under 5	All Homicides	16	18	14	10	18	12	22	19	12	9	13
	# By Firearms	1	3	1	1	2	0	2	3	1	0	1
5-14	All Homicides	13	6	9	5	18	15	7	15	18	10	16
	# by Firearms	7	5	7	2	16	13	4	11	10	8	10
15-19	All Homicides	25	27	28	51	51	61	73	93	75	60	55
	# by Firearms	17	15	18	44	40	42	61	77	57	51	44
20-44	All Homicides	206	197	191	209	216	247	299	334	290	305	313
	# by Firearms	127	101	119	133	137	160	224	241	205	212	229
45-64	All Homicides	53	54	47	43	52	38	54	62	62	62	54
	# by Firearms	29	27	27	20	36	18	36	38	38	33	26
65 and Over	All Homicides	19	22	21	22	12	23	27	19	17	21	13
	# by Firearms	9	6	6	12	5	13	19	8	8	6	6
All ages <sup>a</sup>	Total Homicides	338	327	314	340	370	398	486	548	476	468	468
	# by Firearms	195	158	180	212	238	247	349	383	320	310	318
	% by Firearms	57.7	48.3	57.3	62.4	64.3	62.1	71.8	69.9	67.2	66.2	67.9

<sup>a</sup> May include records with unknown or unspecified age.



**TABLE 14**  
**NUMBER OF FIREARM-RELATED UNINTENTIONAL FATALITIES AND ALL UNINTENTIONAL**  
**INJURY DEATHS BY AGE GROUP AND YEAR, ARIZONA, 1988-1998**

Age Group	Cause	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Under 5	All Unintentional Injury Deaths	98	99	73	86	88	84	98	88	87	80	83
	# Firearm-related	3	1	0	2	1	1	2	0	0	0	1
5-14	All Unintentional Injury Deaths	68	73	66	61	62	78	61	87	76	83	56
	# Firearm-related	1	4	2	3	5	8	3	6	2	4	2
15-19	All Unintentional Injury Deaths	148	137	124	108	107	125	115	147	142	114	131
	# Firearm-related	5	7	7	5	8	10	2	4	4	2	2
20-44	All Unintentional Injury Deaths	699	633	662	585	653	693	811	877	899	875	908
	# Firearm-related	6	13	8	7	12	13	10	18	6	6	10
45-64	All Unintentional Injury Deaths	251	242	264	226	239	266	327	319	348	380	412
	# Firearm-related	1	1	1	3	0	1	4	0	0	4	1
65 and Over	All Unintentional Injury Deaths	346	322	346	358	417	438	464	451	523	560	577
	# Firearm-related	0	0	0	0	3	0	1	0	0	1	0
All Ages <sup>a</sup>	Total Unintentional Injury Deaths	1,624	1,512	1,539	1,426	1,572	1,686	1,879	1,973	2,092	2,106	2,182
	# Firearm-related	16	26	18	19	29	33	22	28	12	17	16
	% Firearm-related	1.0	1.7	1.2	1.3	1.8	2.0	1.2	1.4	0.6	.81	.9

<sup>a</sup> May include records with unknown or unspecified age.

**TABLE 15**  
**FIREARM-RELATED DEATH RATES<sup>a</sup> ASSOCIATED WITH HOMICIDE, SUICIDE AND UNINTENTIONAL INJURY**  
**AMONG ADOLESCENTS 15-19 YEARS OLD, ARIZONA 1988-1998 AND UNITED STATES, 1988-1997**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
<b>Arizona</b>											
<b>HOMICIDE, total</b>	9.8	10.5	10.7	19.0	18.6	23.9	27.9	33.4	24.4	19.0	16.8
By firearms	6.7	7.0	6.9	16.4	14.6	16.4	23.3	27.7	18.5	16.1	13.4
By all other means	3.1	3.5	3.8	2.6	4.0	7.5	4.6	5.7	5.9	2.9	3.4
<b>SUICIDE, total</b>	18.5	18.7	16.1	18.3	12.4	22.7	23.7	18.7	18.2	23.7	15.2
By firearms	12.6	11.7	10.7	13.4	8.7	18.0	17.9	14.4	14.6	18.0	11.9
By all other means	5.9	7.0	5.4	4.9	3.7	4.7	5.8	4.3	3.6	5.7	3.3
<b>UNINTENTIONAL INJURY, total</b>	58.2	53.3	47.5	40.3	39.0	48.9	43.9	52.8	46.1	35.7	39.9
By firearms	2.0	2.7	2.7	1.9	2.9	3.5	0.8	1.4	1.3	0.6	0.6
By all other means	56.2	50.6	44.8	38.4	36.1	45.4	43.1	51.4	44.8	35.1	39.3
<b>United States<sup>b</sup></b>											
<b>HOMICIDE, total</b>	11.5	13.5	17.0	19.6	19.3	20.7	20.1	18.1	15.5	13.6	NA
By firearms	8.9	11.1	13.9	16.6	16.8	18.0	17.9	15.6	13.3	11.7	NA
By all other means	2.6	2.4	3.1	3.0	2.5	2.7	2.2	2.5	2.2	1.9	NA
<b>SUICIDE, total</b>	11.1	11.1	11.1	11.0	10.8	10.9	11.1	10.5	9.7	9.5	NA
By firearms	6.8	6.8	7.5	7.5	7.3	7.4	7.8	7.0	6.2	6.0	NA
By all other means	4.3	4.2	3.6	3.6	3.5	3.5	3.3	3.5	3.5	3.5	NA

<sup>a</sup> Number of deaths per 100,000 persons 15-19 years old.

<sup>b</sup> Data for 1988-1993: *Injury Mortality: National Summary of Injury Mortality Data 1987-1993*. National Center for Injury Prevention and Control CDC. June 1996; Data for 1994-1997 are from the CDC WWW site ([www.cdc.gov/inquiry/shtml](http://www.cdc.gov/inquiry/shtml)). 1997 is the latest year for which the U.S. data are available.

**TABLE 16.**  
**AGE-ADJUSTED FIREARM DEATH RATES\* IN THE UNITED STATES AND BY COUNTY OF**  
**RESIDENCE IN ARIZONA, 1989-1991 AND 1992-1998**

County	1989-1991**	1992	1993	1994	1995	1996	1997	1998
Apache	14.4	15.3	7.4	5.6	13.6	30.0	29.7	18.3
Cochise	17.5	19.5	18.3	37.2	21.4	10.5	10.4	19.1
Coconino	10.8	12.5	15.4	18.4	20.7	20.1	19.5	18.9
Gila	24.7	29.2	28.6	23.8	41.4	34.4	34.2	16.2
Graham	8.6	16.1	23.8	19.4	21.6	7.1	6.9	13.4
Greenlee	-	31.7	14.2	20.2	29.3	31.9	32.2	29.6
La Paz	52.3	36.9	26.6	26.8	23.9	37.3	36.2	3.6
Maricopa	17.6	18.3	21.2	19.0	25.5	19.3	18.7	19.2
Mohave	27.0	32.6	32.9	31.7	26.2	22.3	21.5	20.2
Navajo	16.1	18.2	24.7	20.8	22.8	19.8	19.6	20.2
Pima	17.5	17.0	18.8	19.8	19.7	18.0	17.6	19.2
Pinal	26.6	20.6	32.8	29.3	23.0	27.8	27.0	28.5
Santa Cruz	10.8	16.0	7.2	18.5	12.9	8.4	8.1	12.9
Yavapai	26.8	20.5	19.7	28.7	29.7	19.7	19.0	22.5
Yuma	11.7	12.1	11.3	17.1	16.2	10.2	10.0	11.7
ARIZONA	18.3	18.7	21.0	24.0	24.4	20.1	19.5	20.0
UNITED STATES	14.6	14.9	15.7	15.4	13.9	13.0	11.9	10.9

\* Adjusted to U.S. population of 1940 and presented per 100,000.

\*\* Average annual rates for 1989-1991.

Note: Many rates shown above are based on a small population, small number of events, or both. Rates based on small numbers (10 or less) are not statistically reliable.

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Our Web site at <http://www.hs.state.az.us/plan/ohpes.htm> provides instantaneous access to a wide range of statistical information about health status and use of health care in Arizona. The [\*Arizona Health Status and Vital Statistics\*](#) annual report examines trends in natality, mortality and morbidity towards established health objectives. Additional data can be found in the special reports and studies focused on differences in the health status by ethnic group, suicide mortality, unintentional injury mortality among children and adolescents, firearm-related fatalities, unintentional drowning deaths, drug-related mortality, teenage pregnancy and abortion practices in Arizona. The [\*Monthly Vital Statistics Bulletin\*](#) has the most up to date information on births, deaths, marriages and divorces.



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**Office of Epidemiology and Statistics  
Bureau of Public Health Statistics  
Public Health Services  
ARIZONA DEPARTMENT OF HEALTH SERVICES**

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